

# Middle School STEM Standards Checklist (Draft)

## Literacy Standards - Reading

### **Key Ideas & Details**

- ☐ 1. Read closely; cite specific textual evidence ...
- ☐ 2. Determine central ideas of a text & analyze their development; summarize the key supporting details and ideas
- ☐ 3. Analyze how and why ideas develop & interact over the course of a text

### **Craft and Structure**

- ☐ 4. Interpret words & phrases as they are used in text..
- ☐ 5. Analyze the structure of texts ...
- ☐ 6. Assess how point of view or purpose shapes the content and style of a text.

### **Integration of Knowledge and Ideas**

- ☐ 7. Integrate and evaluate content presented in diverse media and formats ...
- ☐ 8. Delineate and evaluate the argument and specific claims in a text ...
- ☐ 9. Analyze how two or more texts address similar themes or topics ...

### **Range of Reading & Level of Text Complexity**

- ☐ 10. Read and comprehend science /technical texts at grade level independently and proficiently

## Literacy Standards - Writing

### **Text Types and Purposes**

- ☐ 1. Write arguments focused on content
- ☐ 2. Write informative/explanatory texts

### **Production & Distribution of Writing**

- ☐ 4. Produce clear and coherent writing
- ☐ 5. Develop and strengthen writing
- ☐ 6. Use technology to produce and publish writing

### **Research to Build and Present Knowledge**

- ☐ 7. Conduct short research projects to answer a question
- ☐ 8. Gather relevant information from multiple print and digital sources
- ☐ 9. Draw evidence from informational texts to support analysis, reflection and research

### **Range of Writing**

- ☐ 10. Write routinely over extended and shorter time frames.

## Standards for Technological Literacy

### **Develop an understanding of the:**

- ☐ 1: characteristics & scope of technology
- ☐ 2: core concepts of technology
- ☐ 3: relationships among technologies and the connections between technology & other fields of study.
- ☐ 4: cultural, social, economic, & political effects of technology.
- ☐ 5: effects of technology on the environment
- ☐ 6: role of society in the development and use of technology.
- ☐ 7: influence of technology on history
- ☐ 8: attributes of design.
- ☐ 9: engineering design.
- ☐ 10: role of troubleshooting, research & development, invention & innovation, & experimentation in problem solving

### **Develop abilities to:**

- ☐ 11: apply the design process.
- ☐ 12: use & maintain technological products & systems.
- ☐ 13: assess the impact of products & systems.

### **Develop an understanding of & be able to select & use:**

- ☐ 14: medical technologies.
- ☐ 15: agricultural & related biotechnologies.
- ☐ 16: energy & power technologies.
- ☐ 17: information & communication technologies.
- ☐ 18: transportation technologies.
- ☐ 19: manufacturing technologies.
- ☐ 20: construction technologies.

## Science Standards

### **Standard 1: Skills & Processes**

- ☐ A1. Design, analyze, or carry out simple investigations and formulate appropriate conclusions based on data obtained or provided
- ☐ B1. Review data from a simple experiment, summarize the data, and construct a logical argument about the cause-and-effect relationships in the experiment
- ☐ C1. Develop explanations that explicitly link data from investigations conducted, selected readings, and, when appropriate, contributions from historical discoveries
- ☐ D. Design and Systems: Explain that complex systems require control mechanisms
- ☐ D. Designed Systems: Analyze, design, assemble and troubleshoot complex systems.
- ☐ D. Making Models: Analyze the value and the limitations of different types of models in explaining real things and processes.

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**Standards for Mathematics Practices**

- ☐ 1 Make sense of problems & persevere in solving them
- ☐ 2 Reason abstractly & quantitatively
- ☐ 3 Construct viable arguments & critique reasoning of others
- ☐ 4 Model with mathematics
- ☐ 5 Use appropriate tools strategically
- ☐ 6 Attend to precision
- ☐ 7 Look for & make use of structure
- ☐ 8 Look for & express regularity in repeated reasoning

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